

REMARKS

The Applicant expresses appreciation for Examiner Bell's time during several telephonic conferences with patent attorney Shireen Bacon on July 30, August 2, and August 3, 2004. The Examiner and Ms. Bacon have agreed that an additional interview, after this Response has been formally submitted, would be desirable. Ms. Bacon hereby requests that Examiner Bell call her at 512.732.3917 to arrange an interview to discuss the amendments and remarks made herein.

In a response after the Final Office Action, Claims 1-22 were submitted for examination and various amendments to the specification were presented. Claim 22 was not entered, and all remaining claims stand rejected. In view of the following remarks, Applicant submits that all claims remaining in the case are in condition for allowance and that all other objections have been overcome.

The previously-presented amendments to the specification are re-presented. In general, the specification has been amended to correct some minor typographical errors. The specification has also been amended to specify that the acronym LCOS stands for "liquid crystal on silicon" rather than "liquid crystal on semiconductor". The misidentification of the meaning of the LCOS acronym in the original specification was apparently an inadvertent mistake by the drafting attorney. This conclusion is supported by the fact that the drafting attorney later amended claims to include the correct meaning of the LCOS acronym (see response filed on January 27, 2004).

The currently proposed amendment to the specification does not add new matter, but merely provides the correct expansion of the LCOS acronym. As a result of such

amendment, the rejections of claims 1-11 and 14 that are based on 35 U.S.C. 112 have been overcome. In addition, the objection to the amendments to the specification, which was set forth in the Advisory Action, has been overcome in relation to Claim 14 because claim 14 has been amended to change “semiconductor” to “silicon.”

Regarding the claims, Claims 1-3, 8, 9 and 18-20 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Busch (5,510,806) in view of Liao et al. (6,681,005). However, Busch ‘806 and Liao ‘005 fail to suggest, disclose or teach all limitations for each rejected claim. Accordingly, the Office Action has failed to make a prima facie case of obviousness, and such rejections should be withdrawn.

The cited references must teach or suggest all the claim limitations in order for a prima facie case of obviousness to lie. MPEP § 2142. The mere fact that a reference can be modified does not render the resultant combination obvious unless the prior art also suggests the desirability of the combination. In the present case, as is explained below, the prior art does not suggest the desirability of the combination.

Furthermore, the level of skill in the art cannot be relied upon to provide the suggestion to combine references. *Al-Site Corp. v. VSI Int’l Inc.*, 174 F.3d 1308, 50 USPQ2d 1161 (Fed. Cir. 1999). Instead, there must be some objective reason to modify the teaching of the reference. See MPEP § 2143.01 (argument that the claimed invention is within the capabilities of one of ordinary skill in the art is not sufficient by itself to establish *prima facie* obviousness).

Busch ‘806 discloses a portable computer having an LCD projection display system. The computer of Busch includes a generally rectangular base housing. A

conventional keyboard structure is operatively mounted on the top side of the base housing. A display screen structure is secured to the base housing by a hinge.

Busch '806 teaches a pivotal LCD projection structure 42 mounted on the top side of a base housing, for pivotal movement. (Busch '806, Abstract) Busch further discloses that the small LCD projection structure is carried by the base structure and projects an image in magnified form onto the front side of the screen. The LCD projection structure includes a projection lens, an LCD projection panel, and a high intensity light source. During operation, an image is created on the LCD projection panel and projected to the screen. (see e.g., col. 3, line 9 to col. 4, line 30 and Figure 1).

Liao '005 fails to provide a suggestion or teaching for the elements of Applicant's claims that Busch '806 fails to disclose, suggest or teach. Liao '005 discloses a small size LCOS panel to be used in projectors or projection TVs.

Applicant's Claim 1 recites, in part: "A base unit to house a computing system and to house an internal micro projection device." Claim 1 further recites, "said micro projection device is integrated into base electronics inside the base unit." Claim 12 recites, in part: "an optic integrated internally into the base electronics of the mobile computer." Claim 18 recites, in part: "propagating said display data to a micro projection system housed substantially inside the mobile computer, wherein said micro projection system is integrated with base electronics within said mobile computer." Such limitations are not disclosed, suggested, or taught by Busch, either alone or in combination with Liao.

There is absolutely no suggestion or teaching in Busch '806 that the projection structure 42 is an internal structure that could be incorporated into the base unit. Rather, the Bush LCD projection structure is "mounted on the top side of the base housing for

pivotal movement.” Busch, Abstract. The Busch projection structure is mounted atop the housing structure in order to facilitate pivotal movement. Such aim would be abrogated by an integrated projection structure.

In contrast, Applicant teaches an internal integrated micro projection device that may be incorporated into the housing of the base unit. Applicant has disclosed an internal *integrated* micro projection device. See, e.g., Application para 15 (“integration micro projection display” and “integrated projector” and “optical system can thus be designed to *fit inside* a mobile platform”). Figs. 2 and 3 make clear that embodiments of the claimed invention include an integrated optical subsystem such that the optical system fits inside the mobile platform rather than mounted on top of the base housing. Regarding Fig. 2, Applicant discloses that “micro projection unit [is] incorporated into the computing module 202.” (Application, para 17). Regarding Fig. 3A, Applicant discloses a closed configuration “having an incorporated micro projector” (Application, para 20); the base unit 302 includes a “built-in micro projector” (Application, para 22). Regarding Fig. 3B, Applicant discloses that the “innards” of the base unit 302 includes an optical subsystem 320. (Application, para 24). The optical subsystem 320 is housed in the base unit 320 .

The cited references thus fail to make a prima facie case of obviousness regarding an “internal micro projection device” that is “integrated into base electronics inside the base unit.” (Claim 1, in part). Similarly, the cited references fail to make a prima facie case of obviousness regarding “an optic integrated internally into the base electronics of

the mobile computer”. (Claim 12, in part). Also, the cited references fail to make a prima facie case of obviousness regarding “a micro projection system housed substantially inside the mobile computer, wherein said micro projection system is integrated with base electronics inside the mobile computer.” (Claim 18, in part). Thus, a prima facie case of obviousness regarding Claims 1 and 18 have not been made. Claim 1, and the claims that depend from Claim 1, are allowable for at least this reason. Similarly, Claim 18 and its dependent claims are also allowable for this reason.

Additional claimed features illustrate benefits not anticipated, taught, nor suggested by the cited references. For instance, Applicant discloses that its micro projection system may be attached “in place of the LCD screen” and that the LCD screen may be deleted. (Application, para. 15). Indeed, no projection screen may be needed at all (see Application, para. 19 “a projection screen may not be needed”).

Claim 1 recites, in part: “a viewing surface that is not physically connected to said housing.” Claim 12 recites, in part: “said optic to create an image on a surface that is separate from the mobile computer.” Claim 18 recites, in part: “a mobile computer that does not include an attached display screen.”

Busch clearly teaches an attached screen panel. Indeed, all embodiments disclosed in Busch require an attached screen structure (see, e.g., col. 1, line 59 to col. 2, line 13; Fig. 1). Therefore, Busch ‘806 does not, either alone or in combination with the other cited references, disclose suggest or teach the limitations quoted in the paragraph above. Accordingly, independent Claims 1 and 18, and all claims that depend from such independent claims, are allowable for at least this reason.

As is quoted above, Claim 18 recites, in part: “wherein said micro projection system is integrated with base electronics within said mobile computer.” Busch ‘806 does not

disclose, teach, or suggest such limitation. Instead, Busch '806 illustrates, in Fig. 2, that the entire LCD projection structure is housed within a separate plastic lens housing 44. The lens housing carries a high intensity light source 56 and carries a support structure 54 for an LCD projection panel 51. (See Busch, '806, Col. 3, line 56 – Col 4, line 25). Accordingly, the plastic housing 44 of Busch '806 keeps the base electronics of the portable computer separate from its LCD projection structure.

Liao '005 does not disclose housing of a micro projection system inside a mobile computer. Liao '005 merely discloses a fabrication method “aimed at the small size panel, such as the projector of the LDC panel used in projection TV.” (Liao '005, col. 2, lines 16-18). There is no suggestion, teaching, or disclosure of housing a micro projection system in a mobile computer. Accordingly, Busch '806 and Liao '005 do not disclose, suggest, nor teach the limitations of Claim 18. Claim 18, as well as its dependent claims, are allowable for at least this reason.

In addition, Busch '806 does not suggest, teach or disclose, either alone or in combination with other cited references, other benefits that can be realized from the disclosed system. For example, Applicant discloses that, “[e]mbodiments in accordance with the present invention allow notebook computers to be built substantially smaller than the size of the projected image.” Application, para. 16. Claim 1 recites, in part: “wherein the area of said projected image is capable of being substantially larger than the area occupied by the base unit.” Claim 12 recites, in part: “wherein the area of said image is capable of being substantially larger than the area of the mobile computer.” In contrast, Busch '806 shows a standard notebook configuration, wherein the size (area) of the display screen roughly matches the size (area) and shape of the base housing. Busch '806 does not disclose, suggest, nor teach that its projected image size may be

substantially larger than the base housing. Accordingly, Claims 1, 12, and 18,, as well as dependent claims that depend from such claims, are allowable for at least this reason.

Applicant respectfully submits that the rejections to Claim 1 and Claim 18 based on 35 U.S.C. §103(a) have been overcome. Furthermore, for at least the same reasons noted above with respect to Claims 1 and 18, dependent Claims 2-11 and 19-21 are similarly distinguishable over the Busch and Liao references.

Claims 4-6, 10-17 and 21 stand rejected under 35 U.S.C. 103(a) as being unpatentable over Busch (5,510,806) and Liao et al. (6,681,005) in view of Miyashita (5,782,548). Claims 4-11 depend directly or indirectly on independent base Claim 1 and add additional limitations. Thus, they are allowable for at least the reasons discussed above in connection with Claim 1. Similarly, claim 21 depends from Claim 18 and is therefore allowable for at least the reasons set forth above in connection with Claim 18.

Regarding Claim 12, the Office Action states that Busch, Liao and Miyashita together teach the limitations of claim 12. A prima facie case of obviousness exists when (1) either the reference themselves or the knowledge generally available to one of ordinary skill in the art contain some suggestion or motivation to modify the reference or to combining the reference teachings; (2) a reasonable expectation of success exist; and (3) the prior art reference or references teach or suggest all the claim limitations. Here, neither the references themselves nor the art generally contain a suggestion or motivation to combine the reference teachings as suggested by the Office Action.

Miyashita does not remove the shortcomings of Busch and Liao, regarding Claim 12, that are discussed above. Miyashita discloses an image projection system and a method of controlling a projected pointer. Miyashita discloses a liquid crystal projector to project an image to a screen. The projector can be remotely operated by a wireless remote

controller. (see e.g. col. 6 line 64 to col. 7, line 30). Miyashita further discloses that a personal computer functions as the main control means for the liquid crystal projector. The computer comprises a mainframe, display, a keyboard, and a mouse. Figures 4 and 5 show both the keyboard and mouse physically connected to the computer. An operator operates keys of the keyboard and the mouse functioning as a pointing device to control the display position of the cursor. Miyashita discloses a remote controller, but notes the keyboard and mouse are the main operating portion. (see e.g., col. 8, line 46 to col. 9, line 14). In the event of a conflict between the remote controller with the keyboard and mouse, the remote controller is disregarded and priority is given to the directly connected keyboard and mouse. (see e.g., col. 10, lines 1-36). Miyashita is thus disclosing a keyboard directly connected to a computer, a mouse directly connected to a computer, and a remote controller. However, there is no teaching or suggestion that Miyashita discloses a wireless mouse or wireless keyboard.

It is respectfully submitted that Busch, Liao and Miyashita do not teach or suggest a combination with each other. Busch discloses a portable computer having an LCD projection display system as discussed above. (see e.g., col. 3, line 9 to col. 4, line 30 and Figures 1 and 2). However, there is no teaching or suggestion that Busch discloses “a wireless mouse to receive user input.” Nor do Busch or Liao disclose a wireless mouse to “send said user input to said processor via a first wireless communication link”.

The Office Action states that item 28 “trackball means” in Fig. 5 discloses “a wireless mouse to receive user input, and to send said user input to said processor via a first wireless communication link”. However, item 28 trackball is part of the remote controller 20, and is not shown as part of the mouse 48. Accordingly, as is discussed above, Miyashita discloses a keyboard directly connected to a computer, a mouse directly

connected to a computer, and a remote controller. The fact that the remote controller may have a trackball means does not convert the remote control into a mouse. As can be seen in Fig. 3, the trackball is clearly disclosed as part of the remote control 20, not the mouse 48 (Miyashita, Fig. 5). There is simply no teaching or suggestion that Miyashita discloses a wireless mouse or wireless keyboard.

Also, Miyashita fails to disclose, suggest, or teach the limitations of Claim 12 as discussed in prior sections of this Response that address the combined teachings of Busch and Liao. Specifically, Miyashita fails to suggest, disclose or teach “an optic integrated internally into the base electronics of the mobile computer” and also fails to suggest, disclose or teach “said optic to create an image on a surface that is separate from the mobile computer.”

Therefore the combination of Busch, Liao and Miyashita fails to teach, suggest or disclose that which is claimed in independent base Claim 12. For the same reasons noted above with respect to Claim 12, dependent Claims 13-17 are similarly distinguished over the Busch, Liao, and Miyashita references, alone or in combination.

Accordingly, all independent claims are in condition for allowance. For at least the foregoing reasons, all dependent claims are also in condition for allowance.

Applicant respectfully submits that the applicable rejections have been overcome and must all be withdrawn. All claims are therefore in condition for allowance.

Please charge any shortages and credit any overcharges to our Deposit Account No. 02-2666.

Respectfully submitted,

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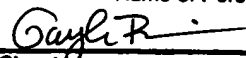
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